

**Notice of Allowability**

Application No.

09/972,180

Examiner

Eva Yi Zheng

Applicant(s)

ISAKSEN ET AL.

Art Unit

2634

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 4/25/05.
2. ☒ The allowed claim(s) is/are 1-13,17-31,33.
3. ☐ The drawings filed on \_\_\_\_\_ are accepted by the Examiner.
4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) ☐ All b) ☐ Some\* c) ☐ None of the:
    1. ☐ Certified copies of the priority documents have been received.
    2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
    3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
  6. ☒ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
    - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
      - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_\_.
    - (b) ☒ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date 7/11/05.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

**Attachment(s)**

1. ☐ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO-1449 or PTO/SB/08), Paper No./Mail Date \_\_\_\_\_
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☒ Interview Summary (PTO-413), Paper No./Mail Date 7/11/05.
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other \_\_\_\_\_.

**DETAILED ACTION**

**EXAMINER'S AMENDMENT**

1. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it **MUST** be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Boris Tankhilevich on July 11, 2005.

The application has been amended as follows:

- (1) Insert the descriptive labels for each box in figures 12,13 and 14 shown in red ink in the attached sheets of drawings.
- (2) The claims has been amended as follows:
  - a) Regarding claim 1, line 8, change "sync" to – sinc --.
  - b) Regarding claim 8, line 10, change "sync" to – sinc --.
  - c) Regarding claim 20, line 20, change "sync" to – sinc --.
  - d) Regarding claim 27, line 10, change "sync" to – sinc --.

***Allowable Subject Matter***

2. Claims 1-13, 17-31 and 33 are allowed.
3. The following is an examiner's statement of reasons for allowance:

None of the prior art teaches or suggests a flexible multimode QAM modulator in a data transmission system, wherein a plurality of data symbols is transmitted over a transmission channel at a symbol rate; the method comprising the steps of: generating a plurality of inphase (I) and quadrature (Q) components of symbols by mapping an input bit stream comprising a plurality of digital codewords into a QAM constellation; bandlimiting, quantizing, interpolating, and pre-compensating the I and Q components of the digital signal for a sinc ( $\sin x/x$ ) function amplitude roll off by utilizing a Polyphase filter at a baseband frequency; converting the a plurality of digital symbols into an analog signal by using a D/A converter in each the I and Q channels separately; prefiltering by a lowpass analog antialiasing prefilter an I analog signal in the an I channel, and an Q analog signal in a Q channel separately; and complexly combining the I component and the Q component of the analog signal by an (I/Q) modulator to generate a real analog RF signal at an interpolated sampling rate.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Eva Y Zheng whose telephone number is 571 272-3049. The examiner can normally be reached on M-F, 7:30 AM to 5:00 PM.

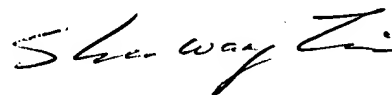
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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stephen Chin can be reached on 571 272-3056. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Eva Yi Zheng  
Examiner  
Art Unit 2634

July 11, 2005

A handwritten signature in cursive script, appearing to read "Shuwang Liu".

**SHUWANG LIU  
PRIMARY EXAMINER**

013 C 10163  
 APR 25 2005  
 PATENT & TRADEMARK OFFICE

Wideband-104/Tank-193  
REPLACEMENT SHEET

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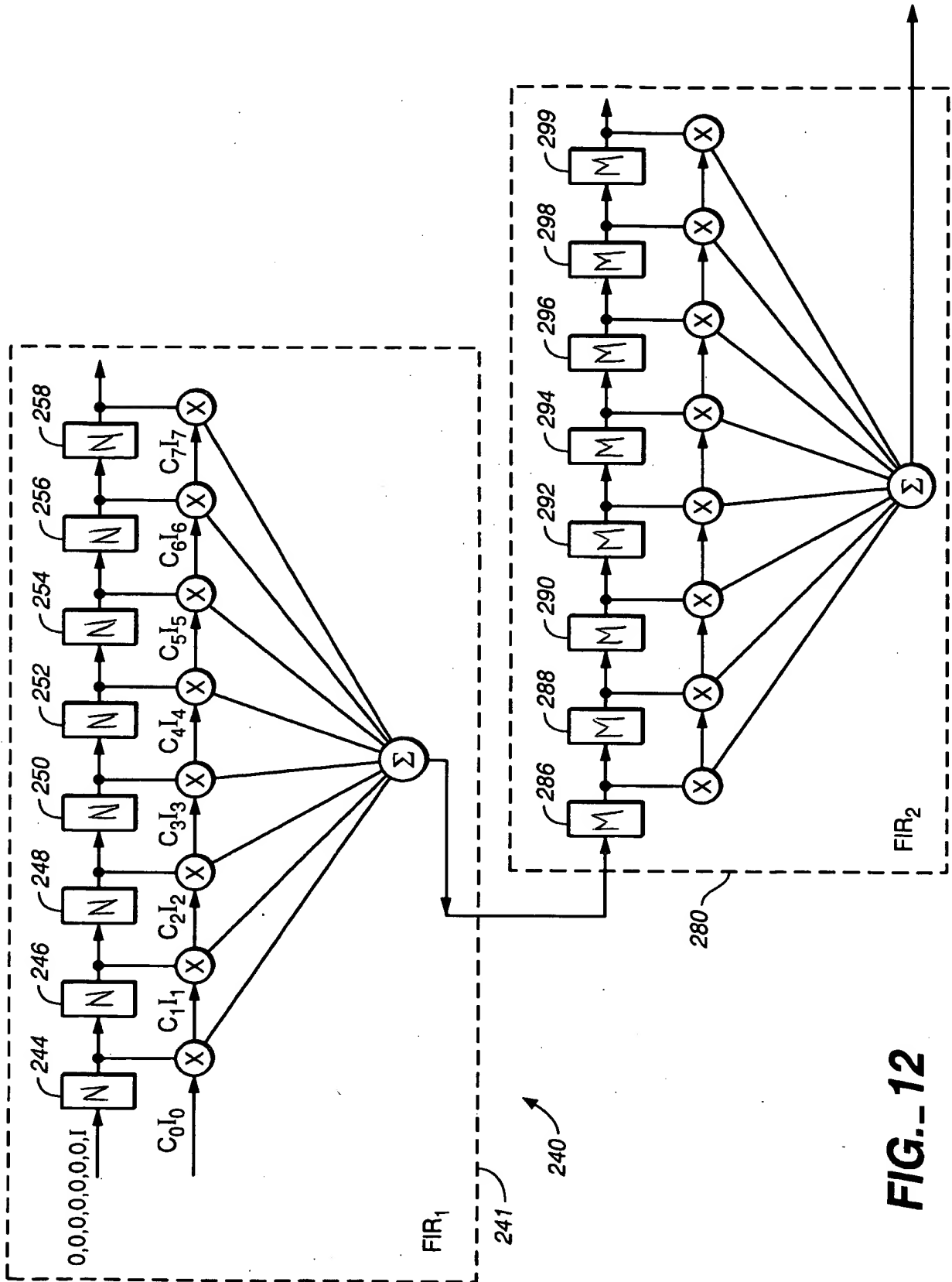
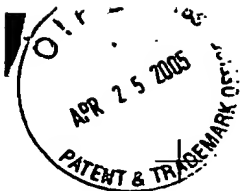
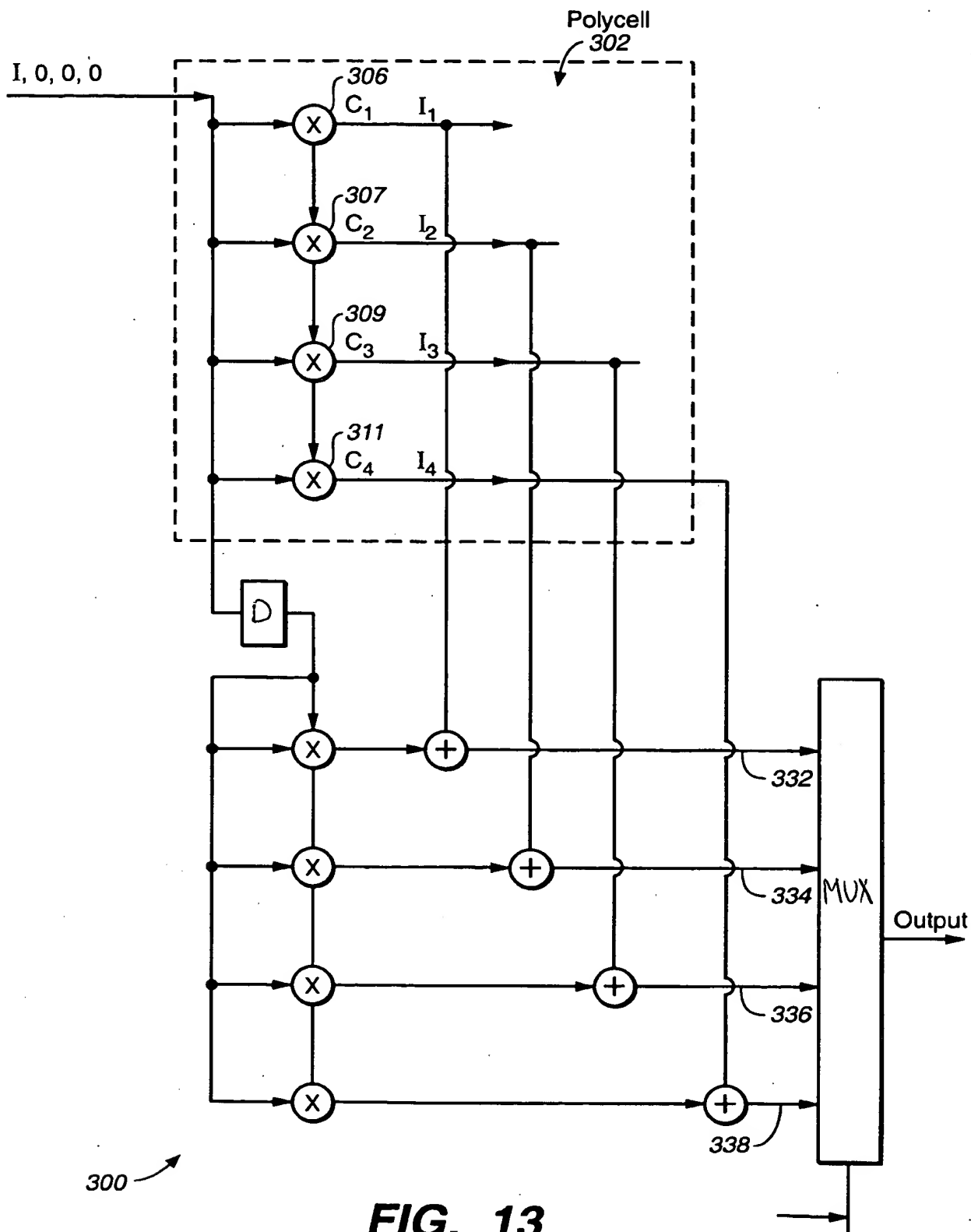


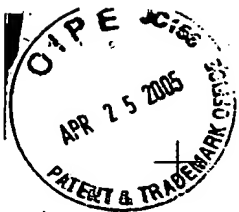
FIG. 12



Wideband-104/Tank-193  
REPLACEMENT SHEET

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Wideband-104/Tank-193  
REPLACEMENT SHEET

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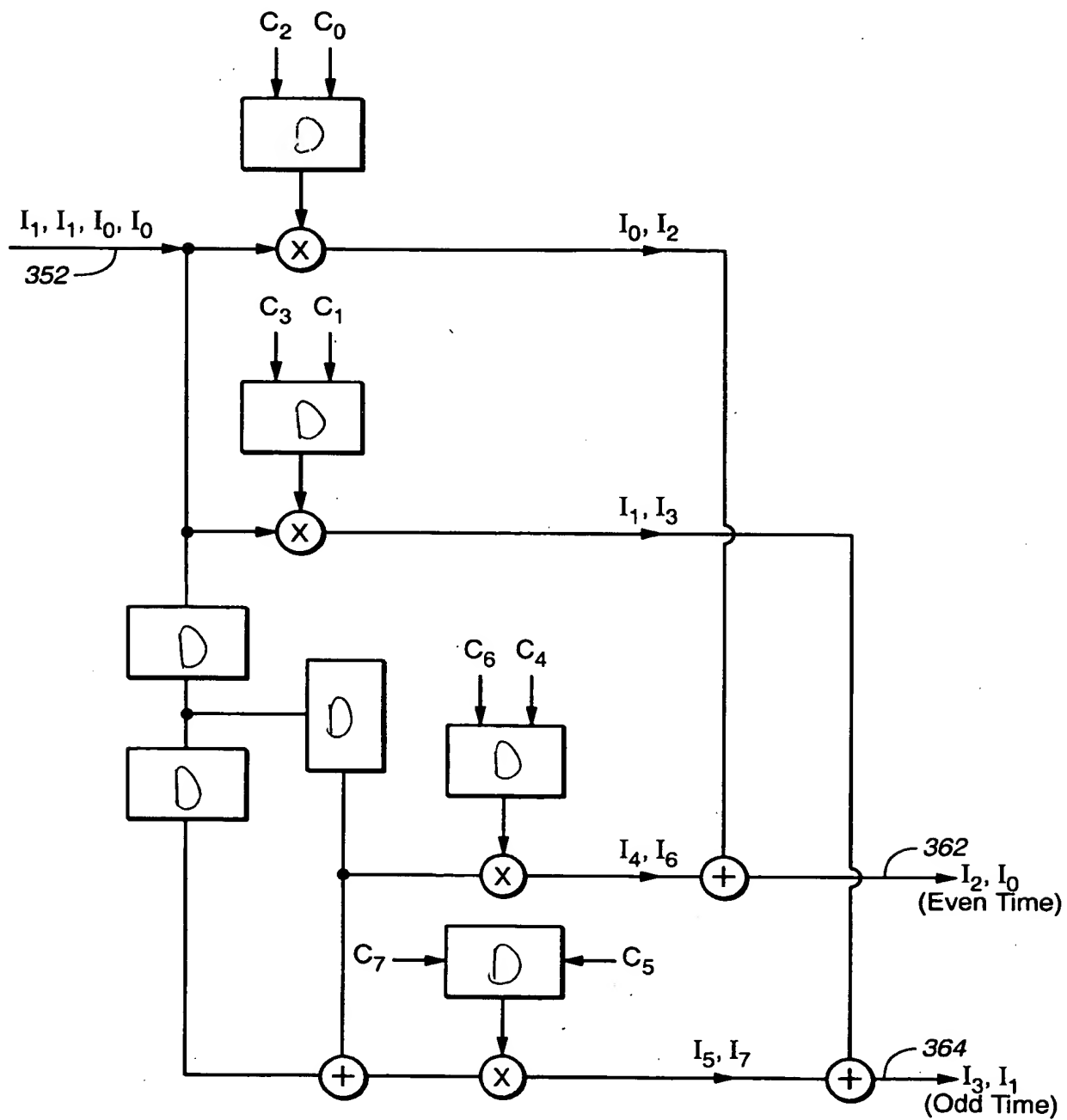


FIG. 14

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